

I CLAIM:

1. A stylet-free catheter for insertion into a patient via a needle defining proximally a needle hub and distally a needle tip, comprising:
  - 5 a catheter having a proximal end, a distal end, and a body connecting said proximal and distal ends;
  - 10 said body defining therealong a stiffening section of a predetermined length disposed a predetermined distance proximally of said distal end such that it is located generally about an area where said body approaches a needle hub when said distal end approaches a needle tip;
  - 15 said stiffening section having a flexural stiffness at least twice that of the remainder of said body.
2. The catheter of Claim 1 wherein said stiffening section has a length of about 5 cm.
3. The catheter of Claim 2 wherein said stiffening section is disposed from about 10 cm to about 15 cm proximally of said distal end.
4. The catheter of Claim 1 wherein said stiffening section extends from about 10 cm to about 15 cm proximally of said distal end.
5. The catheter of Claim 1 wherein said stiffening section has a diameter not exceeding the diameter of the remainder of said body by more than 20 about 0.15 mm.
6. The catheter of Claim 1 wherein said stiffening section is formed of plastic tubing and a cured adhesive extending circumferentially about said plastic tubing to provide a stiffening coating.
7. The catheter of Claim 6 wherein said stiffening coating is non-tacky and wear-resistant.
- 25 8. The catheter of Claim 6 wherein said stiffening coating has a thickness not exceeding about 0.08 mm.
9. The catheter of Claim 6 wherein said stiffening coating extends in a substantially uniform thickness along said stiffening section and about 30 said plastic tubing.

10. The catheter of Claim 6 wherein said stiffening coating reinforces said plastic tubing of said stiffening section.

11. The catheter of Claim 6 wherein said cured adhesive is UV-cured.

5 12. The catheter of Claim 11 wherein said cured adhesive is cured *in situ*.

13. The catheter of Claim 6 wherein said cured adhesive is UV-cured *in situ*.

14. The catheter of Claim 1 wherein said stiffening section is  
10 formed of plastic tubing and a plastic sleeve heat-shrunk about said plastic tubing to stiffen said plastic tubing.

15. The catheter of Claim 14 wherein said sleeve is non-tacky and wear-resistant.

16. The catheter of Claim 14 wherein said sleeve has a thickness  
15 not exceeding 0.008 cm.

17. The catheter of Claim 14 wherein said sleeve extends in a substantially uniform thickness along said stiffening section and about said plastic tubing.

18. The catheter of Claim 14 wherein said sleeve reinforces said  
20 plastic tubing of said stiffening section.

19. The catheter of Claim 14 wherein said sleeve is polyethylene terephthalate (PET).

20. A catheter for insertion into a patient via a needle defining proximally a needle hub and distally a needle tip, comprising:

25 a catheter having a proximal end, a distal end, and a body section connecting said proximal and distal ends;

                  said body defining therealong a stiffening section having a length of about 5 cm. and a diameter not exceeding the diameter of the remainder of said catheter body by more than about 0.15 mm;

said stiffening section being disposed from about 10 cm to about 15 cm. proximally of said distal end such that it is located generally about an area where said body approaches a needle hub when said distal end approaches a needle tip;

5               said stiffening section being formed of plastic tubing and an adhesive UV-cured *in situ* and extending circumferentially about said plastic tubing to provide a stiffening coating, said stiffening coating being non-tacky and wear-resistant and extending in a substantially uniform thickness not exceeding 0.08 mm along said stiffening section and about said plastic tubing to reinforce said  
10 stiffening section;

      said stiffening section having a flexural strength at least twice times that of the remainder of said body.

21.    A catheter for insertion into a patient via a needle defining proximally a needle hub and distally a needle tip, comprising:

15               a catheter having a proximal end, a distal end, and a body section connecting said proximal and distal ends;

      said body defining therealong a stiffening section having a length of about 7 cm. and a diameter not exceeding the diameter of the remainder of said catheter body by more than about 0.15 mm;

20               said stiffening section being disposed from about 10 cm to about 15 cm. proximally of said distal end such that it is located generally about an area where said body approaches a needle hub when said distal end approaches a needle tip;

      said stiffening section being formed of plastic tubing and a  
25 plastic sleeve heat-shrunk about said plastic tubing to stiffen said plastic tubing;

      said sleeve being non-tacky and wear-resistant and extending in a substantially uniform thickness not exceeding about 0.08 mm along said stiffening section and about said plastic tubing to reinforce said stiffening section;

      said stiffening section having a flexural strength at least twice  
30 that of the remainder of said body.

22. In combination, the catheter of Claim 1 and a needle defining proximally a needle hub and distally a needle tip.

23. In combination, the catheter of Claim 21 and a needle defining proximally a needle hub and distally a needle tip.

5 24. In combination, the catheter of Claim 22 and a needle defining proximally a needle hub and distally a needle tip.